

WHAT IS CLAIMED IS:

~~X~~ A device for interworking asynchronous transfer mode cells, comprising:

5 a transmission convergence sublayer operable to receive traffic carrying asynchronous transfer mode cells, the transmission convergence sublayer operable to identify each traffic carrying asynchronous transfer mode cell received;

10 an encapsulation unit operable to receive traffic carrying asynchronous transfer mode cells identified by the transmission convergence sublayer, the encapsulation unit operable to encapsulate each identified traffic carrying asynchronous transfer mode cell into an encapsulation frame having a protocol format readable by
15 a serial communications controller.

2. The device of Claim 1, further comprising:

20 a framer unit operable to receive traffic from a trunk line, the framer unit operable to provide the traffic to the transmission convergence sublayer.

3. The device of Claim 2, further comprising:

25 a controller unit operable to receive the traffic from the framer unit, the controller unit operable to provide the traffic from one of the framer unit and the encapsulation unit for transfer to the serial communications unit.

30 4. The device of Claim 3, wherein the controller unit is operable to select the traffic from the framer unit according to the traffic not being carried by asynchronous transfer mode cells.

5. The device of Claim 4, wherein the traffic is carried by frame relay packets.

5 6. The device of Claim 1, wherein the transmission convergence sublayer is operable to identify and discard asynchronous transfer mode cells without a traffic carrying payload.

10 7. The device of Claim 1, wherein the transmission convergence sublayer is operable to remove a header error correction byte from each received traffic carrying asynchronous transfer mode cell prior to transfer to the encapsulation unit.

15 8. The device of Claim 1, wherein the transmission convergence sublayer is operable to perform a header error correction function, the transmission convergence sublayer operable to discard asynchronous transfer mode cells with header error correction failures.

20 9. The device of Claim 1, wherein the encapsulation frames are transferred to the serial communication controller over a time division multiplexed communication link.

25 10. The device of Claim 1, wherein the transmission convergence sublayer and the encapsulation unit are operable to receive programming commands to change a communication capability of the device.

~~11.~~ A method for interworking asynchronous transfer mode cells, comprising:

receiving asynchronous transfer mode cells;

5 identifying asynchronous transfer mode cells carrying telecommunications traffic;

encapsulating identified asynchronous transfer mode cells in encapsulated frames having a protocol format readable by a serial communications controller.

10 12. The method of Claim 11, further comprising:

determining whether telecommunications traffic is received in asynchronous transfer mode cells;

15 providing the telecommunications traffic directly to the serial communications controller in response to the telecommunications traffic not being carried in asynchronous transfer mode cells.

20 13. The method of Claim 12, wherein the telecommunications traffic is carried in frame relay packets.

25 14. The method of Claim 11, further comprising: discarding asynchronous transfer mode cells that do not carry telecommunications traffic.

15. The method of Claim 11, further comprising: removing a header error correction byte from each asynchronous transfer mode cell received.

30 16. The method of Claim 11, further comprising: performing a header error correction process on each received asynchronous transfer mode cell.

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17. The method of Claim 16, further comprising:
discarding asynchronous transfer mode cells that
fail the header error correction process.

5 18. The method of Claim 11, further comprising:
receiving programming commands in order to change a
communication capability according to a desired protocol
format for the communications controller.

10 19. The method of Claim 18, wherein the desired
protocol format is a high level data link control
protocol.

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15 ~~20~~. A device for interworking asynchronous transfer
mode cells, comprising:
means for receiving asynchronous transfer mode
cells;
means for identifying asynchronous transfer mode
cells carrying telecommunications traffic;
20 means for encapsulating identified asynchronous
transfer mode cells in encapsulated frames having a
protocol format readable by a serial communications
controller.